

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE
HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES**

Application of: Ercan E. Kuruoglu et al.)	Examiner: Gautam Sain
)	
Appl. No.: 09/738,992)	Art Unit: 2176
)	
Filed: 12/19/2000)	Docket No. A0841-US-NP

Title: **METHOD AND APPARATUS FOR COLLABORATIVE ANNOTATION OF A
DOCUMENT**

Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

Appellant respectfully submits this Appeal Brief in the appeal of the present case to the Board of Appeals and Patent Interferences on the Notice dated February 6, 2006.

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I. **REAL PARTY IN INTEREST**

The real party of interest in the present application is the assignee of the present application, Xerox Corporation.

II. RELATED APPEALS AND INTERFERENCES

There is no related appeal or interference.

III. STATUS OF CLAIMS

Claims 1-22 are on appeal.

Claims 1-22 are pending in this application. Of these, claims 1, 11, and 12 are independent claims.

Claims 1-22 have been finally rejected in an Office Action mailed October 6, 2005 (hereinafter referred to as the "Final Office Action") and Advisory Action mailed December 20, 2005 (hereinafter referred to as the "Advisory Action"), on the grounds further discussed herein.

IV. STATUS OF AMENDMENTS

No amendments were filed subsequent to the final rejection of Claims 1-22 in the Final Office Action. All amendments made to the claims prior to the Final Office Action are therefore believed to be entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Generally, Appellant's invention recited in each independent claim 1, 11, and 12 is directed at a system and method that enables users at different locations to work collaboratively on a hardcopy document, and to view each other's annotations to the hardcopy document. As shown in Appellant's Figure 1 below, the system 10 includes a plurality of workstations 14 communicating with a server 12. Each workstation 14 comprises a capture device 20, such as a camera, a computer processor 16, and a display unit 18 for capturing and displaying a digital image of the hardcopy document 22 with handwritten annotations. (See Appellant's specification on page 4, lines 9-11.) Handwritten annotations are identified in a captured image of the hardcopy document 22 at each workstation 14. (See Appellant's specification on page 4, lines 23-30.) Data representing the identified annotation images is communicated to each workstation to permit an annotation entered at a first workstation 14 to the hardcopy document 22 and an annotation entered at a second workstation to the hardcopy document 22 to be distributed to the plurality of workstations 14. (See Appellant's specification on page 5, lines 20-22.) The data representing the identified annotations is used for display with the digital images of the hardcopy document 22 at the plurality of workstations according to display criteria for each workstation such that one or more of the annotations are selectively displayed in accordance with the display criteria of each workstation 14. (See Appellant's specification on page 5, lines 23-27.)

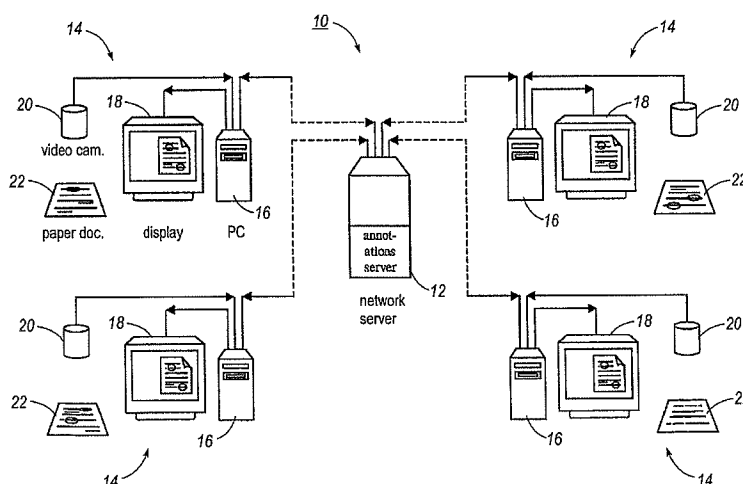


FIG. 1

In addition, Appellant's invention recited in dependent claims 7 and 18 (together with the claims 4 and 15, respectively, to which they depend) provides that the data representing each identified annotation is stored in the form of an annotation object, where the annotation object includes: (a) information representing the annotation as a bitmap; (b) information indicating the location of the annotation in a digital image of the hardcopy document; and (c) information representing the identity of the digital image of the hardcopy document. (See Appellant's specification on page 5, lines 9-15.)

Appellant's Figures 4(a)-4(c) illustrate three handwritten annotations 48a, 48b, and 48c made by three different people and Figure 5 illustrates how the annotations 48a, 48b, and 48c in Figures 4(a)-4(c) may be combined together for collaborative viewing. (See Appellant's specification on page 6, lines 1-4.) Advantageously, with the claimed system and method the user is advantageously able to work directly on hardcopy documents and not limited only to making electronic annotations. (See Appellant's specification on page 4, lines 18-21.)

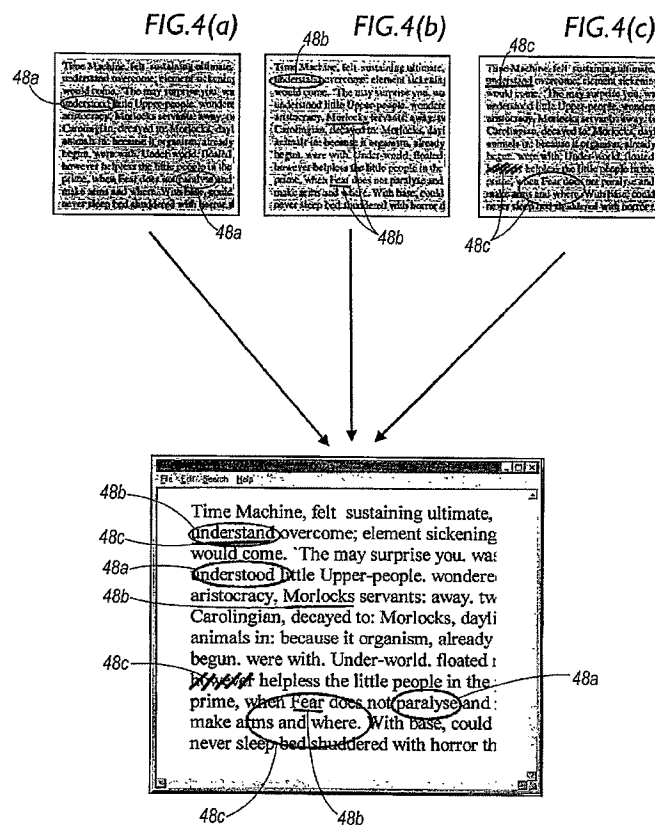


FIG. 5

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-6, 8-17, and 19-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Carleton et al., U.S. Patent No. 5,781,727 (hereinafter referred to as "Carleton") in view of Tran, U.S. Patent No. 6,054,990 and further in view of Simonoff, U.S. Patent No. 6,351,777 (hereinafter referred to as "Simonoff"), further in view of Cass, U.S. Patent No. 5,692,073 (hereinafter referred to as "Cass").

Claims 7 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Carleton in view of Tran and Simonoff and further in view of Levine et al., U.S. Patent No. 5,680,636 (hereinafter referred to as "Levine"), further in view of Cass.

VII. ARGUMENT

Appellant respectfully traverses the rejection of the pending claims and submits they are in condition for allowance for the reasons set forth below.

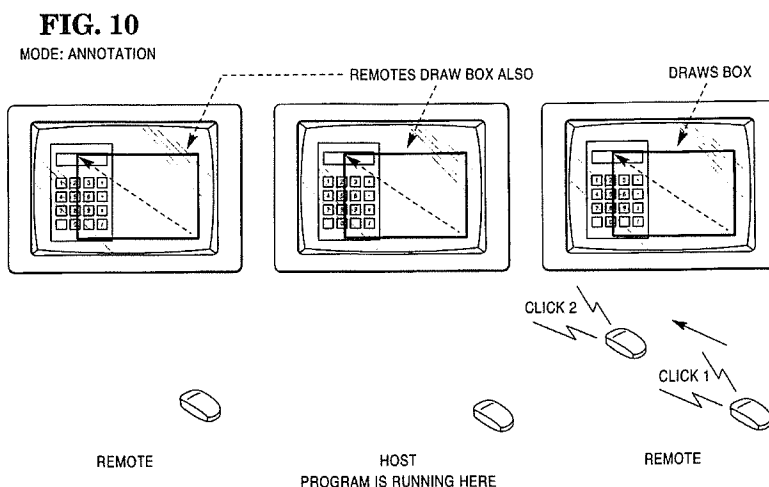
A. First Group Of Claims, Consisting Of Claims 1 (And Its Dependent Claims 2-6, 8-10, and 21), 11, and 12 (And Its Dependent Claims 12-17, 19-20, and 22), Is Patentable Over Carleton, Tran, Simonoff, and Cass

In this section, Appellant traverses the rejection of the first group of claims, consisting of independent claims 1 (and its dependent claims 2-6, 8-10, and 21), 11, and 12 (and its dependent claims 12-17, 19-20, and 22) as being obvious under 35 U.S.C. §103(a) over **Carleton** in view of **Tran**, **Simonoff**, and **Cass**. The instant rejection with regard to independent claim 1, which is discussed herein as the representative claim of independent claims 11 and 12, is set forth on pages 2-4 of the Final Office Action.

Appellant respectfully submits that **Carleton** taken singly or in combination with **Tran**, **Simonoff**, and/or **Cass** fails to disclose or suggest claim 1 read as a whole which includes *identifying handwritten annotations made to a hardcopy document captured at a first and a second workstations, which annotations are communicated to each workstation where one or more of the annotations are selectively displayed in accordance with display criteria of each workstation.*

Carleton describes a system which permits electronic annotations to an application program made by users at remote computers to appear on the displays of other participants. More specifically, Carleton describes a system where an application program can run on a single computer, yet remote participants can issue commands to the program. Further, participants can make annotations on their displays, which are copied by the system onto the displays of other participants. (See Abstract of Carleton.)

For example, Figure 10 of Carlton, reproduced below, illustrates a remote user annotating a calculator and that annotation appearing on other remote user or host displays. (See Carleton column 7, lines 43-67.)



Unlike Appellant's claimed invention which provides a system that allows users at different locations to collaboratively share annotations made to a hardcopy document, Carleton discloses a system for running an application program on one display where electronic annotations of it may be shared on other displays (see Appellant's Figures 1, 4, and 5 reproduced above in the Summary Of Claimed Subject Matter).

Tran discloses "a graphical data entry system for accepting and processing hand sketches and writings such that the user can quickly specify graphical objects in a drawing on a hand-held, mobile computer with a relatively compact screen". (See Abstract of Tran.) "The graphical data entry system [] can be used in conjunction with a camera to annotate pictures taken with the camera". (See Abstract of Tran.) In addition, pen strokes are entered to the system using a pen sensed by a digitizer unit via an electromagnetic field. (See Tran column 7, lines 47-52.)

Figure 13 of Tran, reproduced below, and the following text set forth at column 20, lines 7-20 and lines 24-37 describes how annotations of recorded images are to be annotated:

In step 240, the routine retrieves camera settings from the photographic instruments and, if the instrument settings are to be annotated on the film, the routine formats the data in preparation for encoding. Next, the routine determines if data has been entered via the keypad or buttons/switches 24. If so, the routine stores the typed text data in step 242 before it proceeds to step 249

to encode the data. Alternatively, if data has not been entered via the keypad/switches 24, the routine checks if verbal annotations have been entered in step 243. If so, the routine performs a speech to text conversion in step 244 before proceeding to step 249.

Alternatively, from step 243, if no verbal annotations have been entered, the routine checks if pen annotations have been entered in step 245. If so, the routine proceeds to step 248 to convert the handwritten annotations into text using the hand recognition process discussed above. From step 248, the routine jumps to step 249 to format and encode the data. From step 245, if the handwritten annotations are not available, the routine checks for sketches as annotations. If the pen stroke is a part of a sketch, the routine proceeds with the draw routine of FIG. 5 in step 247. From step 242, 244, 247 or 248, the routine formats and provides the cumulated data to the data encoder to encode the camera settings and user annotations in step 249 before the routine of FIG. 13 is exited.

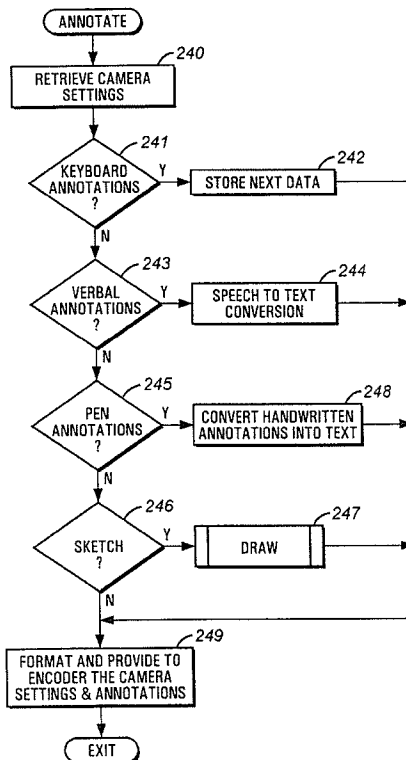
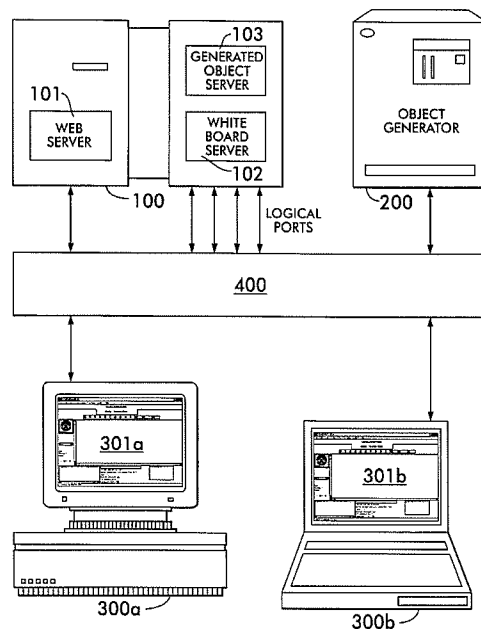


FIG. 13

Thus, unlike Appellant's claimed invention which provides a system that allows users at different locations to collaboratively share annotations made to a hardcopy document, Tran discloses a system where images captured with a camera may then be annotated using keyboard annotations, verbal annotations, and annotations made with a pen/digitizer unit that are either converted to text or considered a sketch.

Simonoff discloses "a dedicated White Board system [that facilitates] collaboration between a plurality of users". Objects and hyperlinks and text may be placed and tracked on the white board with tools. (See Simonoff abstract.) A white board applet is run on a client host computer connects with the white board application server (see Simonoff column 10, lines 1-13). A user may draw objects on the white board and share them according to a set of permissions (see Simonoff column 11, line 52 to column 12, line 4). For example, as shown in Simonoff's Figure 3, reproduced below, white board applet 301a on client hosts 300a and 300b connects to white board application server 102 running on server 100 (see Simonoff column 10, lines 1-13).

FIG. 3

Unlike Appellant's claimed invention which provides a system that allows users at different locations to collaboratively share annotations made to a hardcopy

document, Simonoff discloses a system where annotations are shared that are made to an electronic white board.

Cass discloses a method for using arbitrary documents as computer readable forms, where any kind of stored digital document may be used as a form (i.e., "formless forms"). In the method illustrated in Cass Figure 5 reproduced below, a reference document to which a mark has been added is extracted therefrom. Information is provided concerning a set of active elements of the reference document, where the reference document has at least one active element associated with at least one action. The extracted mark is evaluated to determine whether it indicates any of the active elements, which if one is indicated the action associated therewith is performed. (See Cass column 3, lines 23-59.) [Note, the Final Office Action cites lines 12-19 of Cass but not the column number – Appellant has assumed for the purpose of the discussion herein that the Final Office Action on page 4, line 2 refers to column 3 of Cass.]

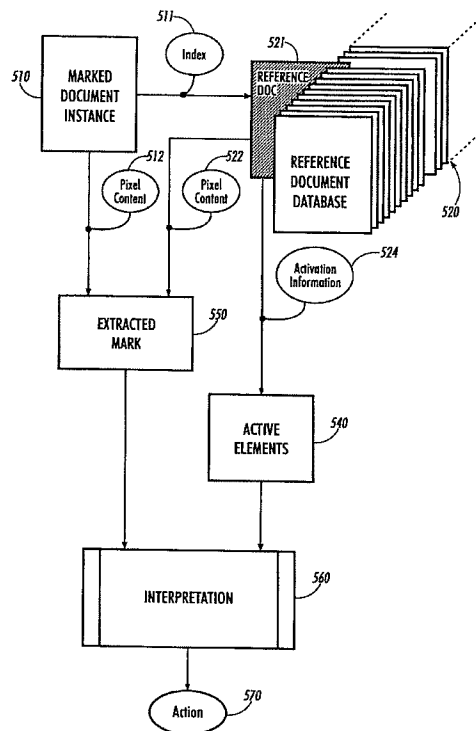


FIG. 5

Unlike Appellant's claimed invention which provides a system that allows users at different locations to collaboratively share annotations made to a hardcopy document, Cass discloses a method for using flexible hardcopy forms by using an

active element(s) that is associated with a reference document to which a mark has been extracted from it.

The forgoing discussion of the cited references illustrate that combining Carlton, Tran, Simonoff, and Cass taken singly or together, fails to disclose or suggest a system as claimed by Appellant in claim 1 in which *handwritten annotations* made to a *hardcopy document* captured at a *first and a second workstations are identified, which annotations are communicated to each workstation* where one or more of the annotations are selectively displayed in accordance with *display criteria* of each workstation.

Moreover, Carlton, Tran, and Simonoff taken together or singly concern the annotation of an electronic document; none disclose or suggest the sharing of annotations made to a hardcopy document; for example: Carlton allows participants to create and share annotations to an application program on an electronic display (see Carlton Abstract); Tran permits the annotation of pictures taken with a camera using a graphical data entry system (see Tran Figure 13 discussed above); and Simonoff allows users to draw and share objects on an electronic white board (see Simonoff column 11, line 51 to column 12, line 5).

Cass in contrast discloses a method for using flexible hardcopy forms, which method relies on at least one active element(s) that is associated with a reference document to which a mark has been extracted from it. When the mark and the action element are associated, the action corresponding to the element is performed. In the PaperWeb example described in Cass (see Cass column 15, line 51 through column 19, line 6), hypertext links in paper documents may be followed by specifying a link as an action element and where the action of a marked link is to return the document associated with the action element.

Appellant respectfully submits that Carlton, Tran, and Simonoff taken singly or together with Cass fail to disclose or suggest the element of Appellant's claimed invention as recited in independent claim 1 when taken as a whole, which recites a system where handwritten annotations made to a hardcopy document captured at a plurality of workstations are identified, and which annotations are communicated to each workstation wherein one or more of the annotations are selectively displayed in accordance with display criteria of each workstation, as Cass concerns the use of

active elements in paper-based forms and not the combination of annotations made by a plurality of users to a document.

That is for the reasons discussed above, Carlton, Tran, Simonoff, and/or Cass read singly or together, fail to disclose or suggest a system that permits users at a plurality of workstations to selectively view handwritten annotations identified in digital images of a hardcopy document captured at each workstation with a capture device, as claimed by Appellant. Further for the reasons discussed above, the cited references fail to disclose or suggest a system and method as claimed by Appellant that allows users at different locations to work collaboratively on a hardcopy document by allowing annotations to a hardcopy document to be viewed at a plurality of workstation displays in accordance with the display criteria of each workstation, as the claimed system and method provide that annotations made to the hardcopy document are communicated between them.

Accordingly, Appellant respectfully submits for the reasons set forth above that independent claim 1 is patentably distinguishable over Carlton, Tran, Simonoff, and/or Cass as the cited sections in the references fail to disclose or suggest Appellant's claimed invention which recites: capturing a digital image of a hardcopy documents at a plurality of workstations; identifying handwritten annotations in the captured images; communicating data representing the handwritten annotations to the plurality of workstations; displaying the hardcopy document at the workstations while selectively displaying the annotations in accordance with the display criteria of each workstation.

In addition it should be noted that claims 11 and 12 contain the same or very similar limitations to those discussed above with respect to claim 1, and therefore the argument presented above with regard to claim 1 applies equally to claims 11 and 12. Insofar as claims 2-6, 8-10 and 13-17, and 19-22 are concerned, these claims depend from presumably allowable independent claims 1 and 12 and are also therefore believed to be patentably distinguishable over Carlton, Tran, Simonoff, and/or Cass for those reasons set forth for claims 1 and 12.

B. Second Group Of Claims, Consisting Of Claims 7 and 18, Is Patentable Over Carleton, Tran, Simonoff, Cass, and Levine

In this section, Appellant traverses the rejection of the second group of claims, consisting of dependent claims 7 and 18 as being obvious under 35 U.S.C.

§103(a) over **Carleton** in view of **Tran, Simonoff, Cass, and Levine**. The instant rejection with regard to claims 7 (which depends from claims 4, which in turn depends from claim 1) and 18 (which depends from claim 15, which in turn depends from claim 12) is set forth on pages 13-14 (and page 10 with regard to claims 4 and 15) of the Final Office Action.

Appellant respectfully submits that **Carleton** taken singly or in combination with **Tran, Simonoff, Cass, and/or Levine** fails to disclose or suggest claims 7 and 18 read as a whole which provides that the data representing each identified annotation stored in the form of an annotation object in the system recited in claim 1 (and its corresponding method recited in claim 12) includes: (a) information representing the annotation as a bitmap, (b) information indicating the location of the annotation in a digital image of the hardcopy document, and (c) information representing the identity of the digital image of the hardcopy document with which the annotation is associated.

In contrast, **Carleton, Tran, Simonoff, and Cass** described subject matter as discussed above with respect to claim 1, while **Levine** discloses a system adapted to display an annotated bitmap image of a document. The system has two views, a desk view and an annotation session view. The desk view emulates a user's desk, whereas the annotation view provides screen size document views of a document to be annotated or created using an input device, such as, a stylus or pen. (See Levine column 2 line 59 to column 3 line 45.)

Unlike Appellant's claimed invention which provides a system that allows users at different locations to collaboratively share annotations made to a hardcopy document, Levine discloses a system where annotations are made using a stylus (or pen) to a bitmap and that such annotations may be superimposed on a bitmap image (see Levine Abstract and column 7, lines 1-8). More specifically, any association or cataloging of annotations performed by Levine (see Levine column 7, lines 1-8), such association or cataloging fails to concern information representing the identity of a digital image of a hardcopy document as claimed by Appellant.

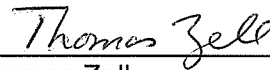
Accordingly, Appellant respectfully submits for the reasons set forth above that claims 7 and 18 are patentably distinguishable over Carlton, Tran, Simonoff, Cass, and/or Levine as the cited sections in the references fail to disclose or suggest

Appellant's claimed invention which recites in part that data representing each annotation includes (a) information representing the annotation as a bitmap, (b) information indicating the location of the annotation in a digital image of the hardcopy document, and (c) information representing the identity of the digital image of the hardcopy document with which the annotation is associated.

C. Conclusion

Based on the arguments presented above, claims 1-22 are believed to be in condition for allowance. Appellant therefore respectfully requests that the Board of Patent Appeals and Interferences reconsider this application, reverse in whole the rejection of claims 1-22, and pass this application for allowance.

Respectfully submitted,



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Date: 6/6/2006

CLAIMS APPENDIX

CLAIMS INVOLVED IN THE APPEAL:

1. A system for permitting collaborative annotation of a hardcopy document, the system comprising:

a plurality of workstations each comprising a computer processor, a display, and a capture device for capturing a digital image of a hardcopy document; and

a base computer communicating with the plurality of workstations;

wherein the system is operative to:

(a) identify handwritten annotations in digital images of the hardcopy document captured at each workstation;

(b) communicate data representing the identified annotation images to each workstation to permit an annotation entered at a first workstation to the hardcopy document and an annotation entered at a second workstation to the hardcopy document to be distributed to the plurality of workstations;

(c) use the data representing the identified annotations for display with the digital images of the hardcopy document at the plurality of workstations according to display criteria for each workstation; and

(d) display the digital images of the hardcopy document at the workstations with one or more of the identified annotations entered at the first and second workstations;

wherein the one or more of the annotations are selectively displayed in accordance with the display criteria for each workstation.

2. The system according to claim 1, wherein the system is operative to identify a new annotation made at a third workstation or an additional annotation made by the first or second workstations, and to update the distribution of annotations to the plurality of workstations.

3. The system according to claim 1, wherein the capture device at, at least one, workstation comprises a camera.

4. The system according to claim 1, wherein the data representing each identified annotation is stored in the form of an annotation object, the annotation object comprising:

(a) information representing the annotation as a bitmap; and

(b) information indicating the location of the annotation in a digital image of the hardcopy document.

5. The system according to claim 4, wherein the annotation object further comprises information representing the origin of the annotation.

6. The system according to claim 4, wherein the annotation object further comprises information representing at least one of a time and date associated with the annotation.

7. The system according to claim 4, wherein the annotation object further comprises information representing the identity of the digital image of the hardcopy document with which the annotation is associated.

8. The system according to claim 5, wherein at least one of the plurality of workstations is operative to display annotations in a plurality of different colors according to its display criteria, the color being indicative of the origin of the annotation.

9. The system according to claim 1, wherein each workstation is operative to identify handwritten annotations.

10. The system according to claim 1, wherein the base computer is operative to identify handwritten annotations.

11. A method for distributing annotations to a hardcopy document made at a plurality of workstation of a collaborative annotation system to other workstations in the system for display, comprising:

(a) capturing a digital image of the hardcopy document at each workstation;

(b) identifying a portion of the digital image corresponding to a handwritten annotation in the hardcopy document captured at a first workstation and a second workstation;

(c) distributing data representing the handwritten annotation to each workstation to permit the annotation entered at the first workstation to the hardcopy document and the annotation entered at a second workstation to the hardcopy document to be distributed to the plurality of workstations;

(d) using the data representing the identified annotations for display with the digital images of the hardcopy document at the plurality of workstations according to display criteria for each workstation; and

(e) displaying the digital images of the hardcopy document at the workstations with one or more of the identified annotations entered at the first and second workstations;

wherein the one or more of the annotations are selectively displayed in accordance with the display criteria for each workstation; and

wherein the one or more of the annotations are selectable at each workstation for retrieving information associated with each selectively displayed annotation, including information concerning each annotation's creation and author.

12. A method for permitting collaborative annotation of a hardcopy document in a system which comprises:

a plurality of workstations each comprising a computer processor, a display, and a capture device for capturing a digital image of a hardcopy document; and

a base computer communicating with the plurality of workstations;

wherein the method comprises:

(a) identifying handwritten annotations in digital images of the hardcopy document captured at each workstation;

(b) communicating data representing the identified annotation images to each workstation to permit an annotation entered at a first workstation to the hardcopy document and an annotation entered at a second workstation to the hardcopy document to be distributed to the plurality of workstations; and

(c) using the data representing the identified annotations for display with the digital images of the hardcopy document at the plurality of workstations according to display criteria for each workstation;

(d) displaying the digital images of the hardcopy document at the workstations with one or more of the identified annotations entered at the first and second workstations;

wherein the one or more of the annotations are selectively displayed in accordance with the display criteria for each workstation.

13. The method according to claim 12, further comprising identifying a new annotation made at a third workstation or an additional annotation made by the first or second workstations, and updating the distribution of annotations to the plurality of workstations.

14. The method according to claim 12, further comprising capturing an image at, at least one, workstation using a camera device.

15. The method according to claim 12, wherein each identified annotation is stored as annotation objects comprising:

(a) information representing the annotation as a bitmap; and

(b) information indicating the location of the annotation in a digital image of the hardcopy document.

16. The method according to claim 15, wherein the annotation object further comprises information representing the origin of the annotation.

17. The method according to claim 15, wherein the annotation object further comprises information representing at least one of a time and date associated with each identified annotation.

18. The method according to claim 15, wherein the annotation object further comprises information representing the identity of the digital image of the hardcopy document with which the annotation is associated.

19. The method according to claim 12, further comprising selectively displaying, at a third workstation, a plurality of annotations originating from at least the first and second workstations.

20. The method according to claim 19, wherein each annotation is selectively displayed in a color indicative of the origin of the annotation according to the display criteria.

21. The system according to claim 1, wherein the one or more of the annotations are selectable at each workstation for retrieving information associated with each selectively displayed annotation, including information concerning each annotation's creation and author.

22. The method according to claim 12, wherein the one or more of the annotations are selectable at each workstation for retrieving information associated with each selectively displayed annotation, including information concerning each annotation's creation and author.

EVIDENCE APPENDIX

NONE

RELATED PROCEEDINGS APPENDIX

NONE